In the Specification:

Please amend the paragraph on page 1, lines 1-3 as follows:

This application is a national filing under 35 U.S.C. § 371 of International Application No. PCT/US2004/032129, filed on September 30, 2004, which ~~This~~ application claims the benefit of U.S. Provisional Application No. 60/507,720, filed on October 1, 2003, entitled "Apparatus and Method for Fluid Flow Measurement with Sensor Shielding," both of which ~~application is~~ applications are hereby incorporated herein by reference.

Please amend the paragraph on page 1, lines 5-10 as follows:

This application is related to the following co-pending and commonly-assigned patent applications: Serial No. 09/880,402, filed June 13, 2001, entitled "Conductive Fluid Logging Sensor and Method," now issued as U.S. Patent No. 6,711,947 B2; Serial No. 10/600,053, filed June 20, 2003, entitled "Fluid Flow Measuring Device and Method of Manufacturing Thereof," now issued as U.S. Patent No. 6,799,407 B2; [[and]] Serial No. 10/924,320, filed August 23, 2004, entitled "Fluid Flow Measuring Device and Method of Manufacturing Thereof," now issued as U.S. Patent No. 6,971,271 B2; and Serial No. 11/254,447, filed October 20, 2005, entitled "Fluid Flow Measuring Device and Method of Manufacturing Thereof," which applications/patents are hereby incorporated herein by reference.

Please add the following paragraphs between lines 27 and 28 on page 9 as follows:

In one aspect, a fluid flow measuring device comprises a plurality of resistors disposed in a circular pattern, a plurality of shields disposed along the fluid flow measuring device in a circular pattern, a plurality of electrodes, each electrode coupled between two adjacent resistors and disposed on an interior surface wall of one of the shields, a first coil of wire adapted to generate a magnetic field wound proximate the resistors and electrodes, a second coil of wire adapted to generate a magnetic field wound proximate the resistors and electrodes, and a voltage measuring mechanism electrically coupled between two of the resistors, wherein a flow of conductive fluid is detectable by measuring the voltage. In a further aspect, the fluid flow measuring has shields that are interconnected. In a further aspect, the fluid flow measuring device has shields comprising a conduit through which fluid may flow. In a further aspect, the fluid flow measuring device has electrodes comprising a point electrode. In a further aspect, the fluid flow measuring device has electrodes comprising a longitudinal electrode. In a further aspect, the fluid flow measuring has electrodes substantially covering opposing sides of the shields.

In another aspect, a method of measuring radial fluid flow in a borehole having an interior wall comprises traversing the borehole with a tool body having a sensor loop attached thereto, wherein shields are disposed along the sensor loop, and wherein voltage sensing electrodes are disposed on the interior surfaces of the shields, and detecting a radial flow of conductive fluid entering or leaving the borehole interior wall. In a further aspect, the shields are interconnected. In a further aspect, the shields comprise a conduit

through which fluid may flow. In a further aspect, the voltage sensing electrodes comprise a point electrode. In a further aspect, the voltage sensing electrodes comprise a longitudinal electrode. In a further aspect, the voltage sensing electrodes substantially cover opposing sides of the shields.

In still another aspect, a fluid flow measuring device comprises a plurality of shields disposed along a curved loop, a series-coupled plurality of alternating electrodes and resistors, wherein each of the electrodes is disposed on an interior surface wall of one of the shields, a magnetic field source, the magnetic field source oriented to generate a magnetic field between adjacent electrodes, the magnetic field substantially orthogonal to an imaginary line intersecting the adjacent electrodes, and a voltage measuring circuit electrically coupled to the plurality of alternating electrodes and resistors, the voltage measuring circuit coupled to measure a voltage difference between the adjacent electrodes, the voltage difference representative of a radial flow of conductive fluid substantially orthogonal to both the imaginary line and the magnetic field. In a further aspect, the fluid flow measuring has shields that are interconnected. In a further aspect, the fluid flow measuring has shields comprising a conduit through which fluid may flow. In a further aspect, the fluid flow measuring device has electrodes comprising a point electrode. In a further aspect, the fluid flow measuring device has electrodes comprising a longitudinal electrode. In a further aspect, the fluid flow measuring device has electrodes substantially covering opposing sides of the shields.

In yet another aspect, a method of manufacturing a fluid flow measuring device comprises disposing a plurality of shields on a sensor loop, disposing a plurality of electrodes on interior surface walls of the shields, disposing a plurality of resistors on the

sensor loop, electrically coupling the electrodes and resistors in an alternating series, disposing a magnetic field source on the sensor loop proximate the electrodes, wherein the magnetic field source is oriented to generate a magnetic field substantially orthogonal to an imaginary line intersecting adjacent electrodes, and electrically coupling a voltage measuring circuit to the plurality of alternating electrodes and resistors, the circuit coupled to measure a voltage difference between adjacent electrodes, the voltage difference representative of a radial flow of conductive fluid substantially orthogonal to both the imaginary line and the magnetic field. In a further aspect, the shields are interconnected. In a further aspect, the shields comprise a conduit through which fluid may flow. In a further aspect, the electrodes comprise a point electrode. In a further aspect, the electrodes comprise a longitudinal electrode. In a further aspect, the electrodes substantially cover opposing sides of the shields.

In still yet another aspect, a method of measuring radial fluid flow in a casing having an interior wall comprises traversing the casing with a tool body having a plurality of electrodes and a plurality of shields, each shield comprising a conduit through which fluid may flow and having two or more electrodes therein, generating a magnetic field substantially perpendicular to an imaginary line between adjacent electrodes, and measuring an induced voltage indicative of a substantially radial flow of conductive fluid entering or leaving the casing interior wall. In a further aspect, the magnetic field is an alternating magnetic field. In a further aspect, the plurality of electrodes are maintained near the interior wall of the casing. In a further aspect, the plurality of electrodes are positioned on a sensor loop, and further comprise adjusting the sensor loop such that the

sensor loop fits within the casing, wherein the adjusting includes changing the angle of the sensor loop with respect to a central axis of the casing.

In yet another aspect, a fluid flow measuring device comprises a plurality of resistors disposed in a circular pattern, a plurality of electrodes, at least one resistor being coupled between two adjacent electrodes, a plurality of shields having two or more of the electrodes therein, a pair of coils adapted to generate a magnetic field proximate the resistors and electrodes, the pair of coils being substantially parallel to each other, and a voltage measuring mechanism electrically coupled between two of the resistors, wherein the voltage measuring mechanism measures an induced voltage indicative of a flow of conductive fluid between two electrodes. In a further aspect, a fluid flow measuring device the magnetic field is an alternating magnetic field. In a further aspect, the fluid flow measuring device has a pair of coils electrically coupled to an alternating current source. In a further aspect, the fluid flow measuring device has a ferromagnetic material disposed between the two coils. In a further aspect, the fluid flow measuring device has ferromagnetic material comprising an iron alloy. In a further aspect, the fluid flow measuring device has at least the resistors and electrodes mounted on a sensor loop, the sensor loop being spring-loaded and being adapted to exert outward pressure to maintain the sensor loop near a casing interior wall. In a further aspect, the fluid flow measuring comprises a means for maintaining the sensor loop near the casing interior wall over a range of casing diameters. In a further aspect, the sensor loop comprises a body comprising fluoropolymer resin. In a further aspect, the sensor loop is spring-loaded with a stainless steel spring wire. In a further aspect, the sensor loop has a substantially oval shape.

In a further aspect, the fluid flow measuring device has coils comprising copper. In a further aspect, the plurality of resistors comprise values of between about 500,000 ohms and about 2,500,000 ohms. In a further aspect, at least the resistors and electrodes are mounted on a sensor loop, the sensor loop being spring-loaded to maintain the sensor loop near an interior wall of a fluid conduit.

In still another aspect, a fluid flow measuring device comprises a series-coupled plurality of electrodes and resistors such that one or more resistors are coupled between adjacent electrodes, a plurality of shields having two or more of the electrodes therein, a magnetic field source, the magnetic field source oriented to generate a magnetic field between adjacent electrodes, the magnetic field substantially orthogonal to an imaginary line intersecting adjacent electrodes, and a voltage measuring circuit electrically coupled to the plurality of electrodes and resistors, the voltage measuring circuit coupled to measure a voltage difference between adjacent electrodes, the voltage difference representative of a flow of conductive fluid through the magnetic field. In a further aspect, the magnetic field is an alternating magnetic field. In a further aspect, the fluid flow measuring device has electrodes disposed along a curved loop. In a further aspect, the fluid flow measuring device has the magnetic field source including an alternating current source. In a further aspect, the voltage difference is proportional to a velocity of the radial flow of conductive fluid. In a further aspect, the magnetic field source comprises a first coil of wire proximate the electrodes and a second coil of wire proximate the electrodes and offset from the first coil of wire, wherein a ferromagnetic material is disposed between the first coil of wire and the second coil of wire. In a further aspect, the fluid flow measuring device has adjacent electrodes spaced about 0.3

inches or less from each other. In a further aspect, the fluid flow measuring device has electrodes mounted on a sensor loop, the sensor loop comprises a force loop exerting outwardly directed radial force. In a further aspect, the fluid flow measuring device has resistors comprising values of between about 500,000 ohms and about 2,500,000 ohms.

In yet another aspect, a method of manufacturing a fluid flow measuring device comprises disposing a plurality of electrodes spaced apart on a sensor loop, disposing a plurality of resistors on the sensor loop, disposing a plurality of shields having two or more electrodes therein, electrically coupling the electrodes and one or more resistors in an alternating series, disposing a magnetic field source on the sensor loop proximate the electrodes, wherein the magnetic field source is oriented to generate an magnetic field substantially orthogonal to an imaginary line intersecting adjacent electrodes, and electrically coupling a voltage measuring circuit to the plurality of alternating electrodes and resistors, the voltage measuring circuit coupled to measure a voltage difference between adjacent electrodes, the voltage difference representative of a radial flow of conductive fluid substantially orthogonal to both the imaginary line and the magnetic field. In a further aspect, the magnetic field is an alternating magnetic field. In a further aspect, the disposing the magnetic field source further comprises disposing a first coil of wire on the sensor loop proximate the electrodes, and disposing a second coil of wire on the sensor loop proximate the electrodes and offset from the first coil of wire, wherein the disposing the magnetic field source further comprises disposing a ferromagnetic material between the first coil of wire and the second coil of wire. In a further aspect, the electrodes are positioned along the exterior of the sensor loop. In a further aspect, the electrodes are disposed on a surface of the sensor loop. In a further aspect, the resistors

and the magnetic field source are disposed under a surface of the sensor loop. In a further aspect, the electrically coupling of the electrodes and resistors is performed before the disposing of the plurality of electrodes and the disposing of the plurality of resistors. In a further aspect, the electrodes are regularly spaced on the sensor loop, wherein adjacent electrodes are spaced about 0.3 inches or less from each other. In a further aspect, a force loop is disposed on the sensor loop, wherein the force loop exerts outwardly directed radial force. In a further aspect, the sensor loop has a substantially oval shape.